Extensive renovation the pathology of heritage building

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Extensive renovation the pathology of heritage buildings

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ABSTRACT

The pathology of heritage buildings is often related to renovation initiatives typically initiated by implementing energy savings measures. But how much energy can be saved carrying out an extensive energy upgrading of a heritage complex or individual heritage buildings.

To quantify how great a potential heritage buildings possess, the extensive energy upgrading of a listed complex was followed.

The paper identifies feasible energy-upgrading measures for implementation and calculated energy savings as well as the reduction of CO_2 emissions. Measures are found to create synergy between the interests in preserving heritage values and the development of affordable renovation that is compatible with the requirements for the future use of the complex.The listed complex consists of four individual listed buildings. The buildings form a single complex surrounding a courtyard, see Fig. 1.

The renovation and energy upgrading of the listed complex, have shown that the primary planning including the function of a heritage building is crucial to the gained energy and CO_2 savings. If service facilities like a canteen or meeting facilities is needed the location of such facilities are important. These facilities can initiate the need for a significant cooling load that might influence the expected savings in CO_2 emissions negatively.

Figure 1. Google maps, photo showing the plan of the listed complex

KEYWORDS: Extensive renovation, Energy upgrading, Climate mitigation, Heritage buildings, Case study.

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Implementing BIM on rehabilitations projects for improve Preparation and production management

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ABSTRACT

The inclusion of Building Information Modelling (BIM) in construction companies strateg is becoming crucial, especially in a time when major changes in legislation towards the ger of BIM, are expected in the near future. Although BIM implementation is becoming more (is mainly used in new construction projects.

This paper aims to demonstrate the use of BIM technology in a rehabilitation project, a features and capabilities may replace and improve traditional methods of operations in c companies dedicated to the rehabilitation sector.

The case study selected was the job "Renewal of S. Francisco Convent", located in Évora, 12 months´ duration work with an estimated cost of 3.36 Million Euros. BIM methodolog in the work preparation and development of the construction phase. This was accomplish the 3D Modelling of all disciplines (architecture, structure, especial systems), including t conditions, design compatibility and clash detection, errors and omissions analyses, coor teams and subcontractors and the as-built model for facility management.

BIM implementation resulted in significant efficiency gains, characterized by a 31% to 91% on time spent in key operational processes namely work preparation, conflict detection and planning and coordination. It also confirmed an improvement in quality and consistency (design information, reducing economic impact of costs associated with schedule delays a caused by field errors.

KEYWORDS: BIM, BIM implementation, Rehabilitation construction project, Design com

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